

IN THE CLAIMS:

1. (CURRENTLY AMENDED) An actuator ~~including~~comprising:
a magnetic field generator; and
an electromagnetic coil arrangement ~~being~~moveable relative to ~~at~~the magnetic field generator, ~~between~~ to define a first position of the actuator and a second position of the actuator,
wherein, when the actuator being arranged such that, with the actuator is in the first position, a pulse of current through the electro magnetic coil arrangement produces a region of magnetic field that repels the magnetic field generator from the first position of the actuator and attracts the magnetic field generator towards the second position of the actuator to move the actuator to ~~its~~the second position.
2. (CURRENTLY AMENDED) ~~An~~The actuator as defined in claim 1, ~~in which~~wherein the magnetic field generator is a single permanent magnet.
3. (CURRENTLY AMENDED) ~~An~~The actuator as defined in claim 1, ~~in which~~wherein the magnetic field generator is ~~a further~~an electromagnetic coil.
4. (CURRENTLY AMENDED) ~~An~~The actuator as defined in ~~any preceding claim in which~~ actuation causes movement of 1, wherein the pulse of current moves the magnetic field generator.
5. (CURRENTLY AMENDED) ~~An~~The actuator as defined in ~~any one of claims 1 to 3 in which actuation causes movement of~~ claim 1, wherein the pulse of current moves the electromagnetic coil arrangement.
- 6-7. (CANCELLED)
8. (CURRENTLY AMENDED) ~~An~~The actuator as defined in ~~any preceding claim in which~~ 1, wherein the electromagnetic coil arrangement includes a frame having a free end and a magnetic core having core ends and a side, and the frame is connected to one of the core ends of the magnetic core and extends along the side of the magnetic core, and the free end of the frame is spaced from the other of the core ends to provide the region of magnetic field.

9-12. (CANCELLED)

13. (CURRENTLY AMENDED) ~~An~~The actuator as defined in ~~any preceding claim 1,~~ wherein ~~said the electromagnetic coil arrangement includes an end, and the region of magnetic field is located at an the end of the electromagnetic coil arrangement.~~

14. (CURRENTLY AMENDED) ~~An~~The actuator as defined in claim 13, wherein ~~said the electromagnetic coil arrangement includes a central region and an outer region, and the region of magnetic field is located between the central region of the electromagnetic core and an the outer region of the electromagnetic coil.~~

15. (CURRENTLY AMENDED) ~~An~~The actuator as defined in claim 14, wherein ~~said the region of electromagnetic flux magnetic field is positioned over a limited circumferential extent of the electromagnetic coil arrangement.~~

16. (CURRENTLY AMENDED) ~~An~~The actuator as defined in ~~any preceding claim 1,~~ wherein ~~an a first air gap is provided between the electromagnetic coil arrangement and the magnetic field generator when the actuator is in the first position and a second air gap is provided between the electromagnetic coil arrangement and the magnetic field generator when the actuator is in the second position, wherein a size of the first air gap is greater than 1 mm.~~

17. (CANCELLED)

18. (CURRENTLY AMENDED) ~~An~~The actuator as defined in claim 16, ~~or 17~~ wherein ~~the a size of the second air gap is greater than 0.5 mm or more, and preferably 1 mm or more.~~

19-22. (CANCELLED)

23. (CURRENTLY AMENDED) ~~An~~The actuator as defined in ~~any one of claims claim 1 to 8,~~ wherein the magnetic field generator ~~is in the form of comprises~~ a first magnetic field generator and a second magnetic field generator in spaced apart relationship ~~between which is situated, and the electromagnetic coil arrangement is situated between the first magnetic field generator and the second magnetic field generator.~~

24. (CURRENTLY AMENDED) ~~An~~The actuator as defined in claim 23, ~~when dependent upon claim 4~~ wherein the first magnetic field generator and the second magnetic field ~~generators~~generator are mounted on a non-magnetic frame, ~~such that~~wherein the first magnetic field generator, the ~~and~~ second magnetic field ~~generators~~generator and the non-magnetic frame move during actuation of the actuator.

25. (CANCELLED)

26. (CURRENTLY AMENDED) ~~An~~The actuator as defined in ~~any preceding claim 1,~~ wherein the actuator provides ~~used to provide~~ security functions on a vehicle.

27-32. (CANCELLED)

33. (CURRENTLY AMENDED) ~~An~~The actuator as defined in ~~any one of claims 27 to 32~~claim 42, further wherein the latch includes a latch housing, and the actuator is positioned in ~~at~~the latch housing of ~~a~~the latch.

34-38. (CANCELLED)

39. (NEW) The actuator as defined in claim 4, wherein the magnetic field generator is a single permanent magnet having a single pole, the electromagnetic coil arrangement includes a frame, and the region of magnetic field includes a north pole and a south pole, wherein one of the north pole and the south pole repels the single pole of the magnetic field generator from the first position of the actuator and the other of the north pole and the south pole attracts the single pole of the magnetic field generator towards the second position to move the actuator to the second position.

40. (NEW) The actuator as defined in claim 1, wherein a first air gap is provided between the electromagnetic coil arrangement and the magnetic field generator when the actuator is in the first position and a second air gap is provided between the electromagnetic coil arrangement and the magnetic field generator when the actuator is in the second position, wherein a size of the first air gap is less than 4 mm.

41. (NEW) The actuator as defined in claim 40, wherein a size of the second air gap is less than 4 mm.

42. (NEW) The actuator as defined in claim 26, wherein the actuator performs one of the following functions:

- providing a lock/unlock function by blocking/unblocking a transmission path between a handle and a latch,

- providing a free wheel locking function in the transmission path between the handle and the latch,

- providing a superlocked function,

- providing a child safety function,

- releasing the latch, and

- latching the latch.

43. (NEW) The actuator as defined in claim 26, wherein the actuator performs one of the following functions:

- opening a fuel filler flap, and

- unlatching the fuel filler flap.

44. (NEW) A latch arrangement comprising:
a latch;
a release mechanism;
a manually actuatable element; and
a control mechanism including an actuator comprising:
a magnetic field generator, and
an electromagnetic coil arrangement movable relative to the magnetic field generator to define a first position of the actuator and a second position of the actuator,
wherein, when the actuator is in the first position, a pulse of current through the electromagnetic coil arrangement produces a region of magnetic field that repels the magnetic field generator from the first position of the actuator and attracts the magnetic field generator towards the second position of the actuator to move the actuator to the second position,
wherein the actuator provides a security function on a vehicle, and the latch is operable to releasably retain a striker in use, and a part of the release mechanism is retained in a rest position by the magnetic field generator to provide for a lock condition.
45. (NEW) The latch arrangement as defined in claim 44, wherein the magnetic field generator is a control pawl.
46. (NEW) The latch arrangement as defined in claim 44, wherein the part of the release mechanism is a lock/unlock lever.
47. (NEW) The latch arrangement as defined in claim 45, wherein the control pawl is pivotally moveable about a pivot axis and a center of gravity of the control pawl is substantially located at the pivot axis.
48. (NEW) The latch arrangement as defined in claim 44, wherein the magnetic field generator is moveable between the lock condition and an unlocked condition by manual operation of a coded security device.